

NOTES ON BROMELIACEAE, XLI

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1. PITCAIRNIOIDEAE

1. PUYA

136a. (formerly No. 161 in Fl. Neotropica key). P. HAMATA L. B. Smith, Contr. U. S. Nat. Herb. 29: 315, fig. 35, 1949, emend L. B. Smith & R. W. Read. A descriptione originali bracteis primariis apice reflexis, a P. isabellina Mez bractearum sepalorumque marginibus indumento densissimo occultis differt.

ECUADOR: CARCHI: El Angel and vicinity, Paramo de El Angel, "Laguna del Boladero", ca. 3650 m, 12 August 1978, Zarucchi 2350 (ECON, US).

The photo with Zarucchi 2350 for the first time clearly shows reflexed primary and scape-bracts. Photos of collections already cited in Flora Neotropica are blurred but do suggest reflexed primary bracts. Actual specimens are too fragmentary to prove much either way. It would have been much better in the Flora Neotropica key p. 76-77 to have removed the species with primary bracts having margins obscured by the indument before those species with reflexed primary bracts.

137. P. TRIANAE Baker.

VENEZUELA: TACHIRA: Paramo El Almorzadero, 3400 m, 14 June 1974, E. Medina s. n. (VEN 97041). New to Venezuela.

3. FOSTERELLA

12b. F. SCHIDOSPERMA (Baker) L. B. Smith var. VESTITA L. B. Smith & R. W. Read, var. nov. A var. schidosperma inflorescentia villosula differt.

INFLORESCENCE villous at least when young.

PERU: PUNO: San Gabon to Ollachea 1000-2000 m, 17-24 July 1978, Dillon, Aronson, Herra & Berry 1253 (holotype, US; isotype MO); below San Gabon on Río San Gabon, 500-1000 m, 17-24 July 1978, 1201 (MO, US).

Unfortunately the key in Flora Neotropica divides the last 6 species of Fosterella (p. 200, 202) on the presence or absence of indument on the inflorescence and thus separates the 2 varieties of F. schidosperma. We propose the following substitution in the key as more useful and probably more in line with taxonomy:

1. Flowers secund or nutant, usually both.
5. Leaf-blades entire.

8. Floral bracts 5-7 mm long, mostly exceeding the pedicels, attenuate.
9. Scape-bracts densely imbricate; floral bracts much exceeding the pedicels; inflorescence densely villous. Bolivia. 9. F. villosula
9. Scape-bracts shorter than the upper internodes at least; floral bracts scarcely if at all exceeding the pedicels; inflorescence merely arachnoid. Mexico, Guatemala, Salvador. 8. F. micrantha
8. Floral bracts not more than 2 mm long, mostly shorter than the pedicels, apiculate.
10. Leaf-blades 35-40 mm wide, strongly contracted toward base though not petiolate.
11. Flowers 8-9 mm long. Peru to Argentina. 10. F. penduliflora
11. Flowers 5 mm long. Peru, Bolivia. 12. F. schidosperma
10. Leaf-blades 11-20 mm wide; flowers 5-6 mm long.
12. Leaf-blades constricted toward base, 11 mm wide, tomentose-lepidote to glabrous beneath; scape-bracts remote. Bolivia. 13. F. gracilis
12. Leaf-blades not constricted toward base, 20 mm wide, covered beneath with a membrane of pale coalesced scales; scape-bracts nearly or quite equaling the upper internodes. Paraguay. 11. F. rojasii

8. PITCAIRNIA

13a. (46). P. ULEI L. B. Smith, Bol. Mus. Nac. Rio de Janeiro II. no. 15: 5, pl. I, figs. h, i, j. 1952, emend. L. B. Smith & R. W. Read. A descriptione originali scapi bracteas superioribus quam internodiis longioribus vel paulo brevioribus, inflorescentia pauciramosa vel simplicissima, seminibus alatis, a P. killipiana L. B. Smith bracteis florigeris lineari-lanceolatis attenuatis et a P. caricifolia Mart. ex Schult. f. ovario ca. 1/3 supero differt.

BRAZIL: DISTRITO FEDERAL: Damp ground subject to flooding, D. Coelho s. n. (INPA 16703).

30a ? P. LUTEYNIORUM L. B. Smith & R. W. Read, sp. nov. Ob ovula perjuvenilia affinitate haud cognita sed ab omnibus speciebus adhuc cognitae foliis integris haud petiolatis, inflorescentia simplici subdensa, bracteis florigeris late ovatis quam sepalis multo brevioribus, floribus subsessilibus, sepalis oblongis, subtruncatis differt. Pl. 1

PLANT known only from fragments, flowering over 7 dm high. LEAF 85 cm long, entire, obscurely lepidote; sheath narrowly ovate, brown toward base, blade linear, attenuate, 26 mm wide, slightly narrowed below but not petiolate. SCAPE straight, stout, dark (dry); scape-bracts erect, the lower subfoliaceous, imbricate, the highest shorter than the internodes, ovate, acuminate, red with green apex. INFLORESCENCE simple, erect, 4 cm long, subdense, glabrous. FLORAL BRACTS like the upper scape-bracts to 25 mm long, concealing the bases of the flowers;

flowers subsessile. SEPALs oblong, subtruncate, apiculate, ca. 30 mm long, reddish-orange suffused with orange at the tips (! Luteyn); petals ca. 40 mm long, rose-red (! Luteyn), appendaged. OVARY more than half superior; ovules very young but apparently not caudate. Pl. 1.

COLOMBIA: NARIÑO: Municipio Ricaurte, La Planada, ca. 5 km south of Chucunés, Finca of L. Salazar, 1850 m, 24-25 February 1979, James L. Luteyn & Maria Lebrón-Luteyn 6821 (holotype, US; isotypes, COL, NY).

Pitcairnia luteyniorum appears to have non-caudate ovules and thus belongs to subgenus Pepinia but in any case we can find nothing closely related to it.

34a. P. ALVERSONII L. B. Smith & R. W. Read, sp. nov. In clavi Florae Neotropicae cum P. epiphytica L. B. Smith et P. sprucei Baker posita sed foliorum vaginis pallidis, laminis angustioribus, scapo brevissimo, pedicellis brevibus, floribus paucis suberectis differt. Pl. 2.

PLANT caulescent. LEAVES uniform, fasciculate, to 6 dm long, entire; sheaths narrowly ovate, 6-7 cm long, green, soon glabrous; petioles ca. 1.5 mm wide; blades linear-lanceolate, attenuate, 23 mm wide, glabrous above, covered beneath with pale appressed scales. SCAPE erect, slender, almost wholly covered by the leaf-sheaths; scape-bracts subfoliaceous, greatly exceeding the inflorescence. INFLORESCENCE simple, few-flowered, shorter than the petiole. FLORAL BRACTS narrowly ovate, filiform-attenuate, the lower ones much exceeding the remainder of the inflorescence; pedicels slender, terete, 8 mm long, lepidote; flowers suberect. SEPALs lance-oblong, 13 mm long, inflated at base, subacute and mucronate at apex, lepidote, the posterior ones carinate; petals 5 cm long, arching, yellow, naked; stamens included; ovary $\frac{4}{5}$ superior; ovules ecaudate.

COLOMBIA: ANTIOQUIA: On cliff, edge of secondary forest along roadway following river, 0-5 km south of Quebrada La Tirana, tropical wet to very wet forest transition zone (annual rainfall ca. 4400 mm), near Planta Providencia 28 km southwest of Zaragoza, valley of Río Anorí in areas surrounding the confluence of Quebrada La Tirana and Río Anorí, ca. 3 km upriver from Planta Providencia, 400-700 m, 23 March 1977, Alverson, White & Shepherd 250 (holotype, WIS; isotype, US).

195a. (207). P. HITCHCOCKIANA L. B. Smith, *Phytologia* 5: 44, pl. 6, figs. 1-3. 1954; emend. *Phytologia* 41: 331, pl. 5. 1979.

VENEZUELA: TACHIRA: Around Represa Dorada, on sandstone bluff near river, 600-1000 m, 10-13 March 1981, Liesner & González 10409 (MO, VEN, US); ca. 35 km south southeast of San Cristobal, La Buenaña, 7° 28' N, 72° 09' W, 600-1200 m, 20-21 March 1981, Liesner & González 10867 (MO, VEN, US); 10 km (airline) km east southeast of La Fundación, around Represa Dorada, 7° 47' N, 71° 46-47' W, 450-650 m, 29 April 1981, Liesner & Guariglia 11563 (MO, VEN, US). New to Venezuela.

216. P. ABUNDANS L. B. Smith, *Phytologia* 10: 483, pl. 2, figs. 1, 2. 1967.

MEXICO: OAXACA: Municipio Pinotepa Nacional: Cañón del Río de

Arena, 6.5 km al este de Pinotepa Nacional por la carretera a Puerto Escondido, bosque caducifolia sobre una ladera de granito, 50 m alt.; planta cespitosa, rosetiforme, retoños saliendo de la base de la roseta, flores color amarillo pálido; en manchones sobre roca expuesta, comun, 9 Noviembre 1979, S. D. Koch, Fryxell & Wendt 79444 (Herb. Colegio, Chapingo, Mexico, Mexico). First collection since the type. New to Oaxaca and a range extension of over 500 miles or 700 km.

2. TILLANDSIOIDEAE

14. TILLANDSIA

9. T. PYRAMIDATA André, Bromel. Andr. 8. 1889.

BOLIVIA: LA PAZ: Prov. Sud Yungas, Huanacán 7.5 km to the south on the new road, 10-20° SW, 2410 m, nearly untouched forest, 9 March 1980, St. G. Beck 1980 (LA PAZ, US). New to Bolivia.

41. T. TOVARENSIS Mez, DC. Monogr. Phan. 9: 769. 1896.

BOLIVIA: LA PAZ: Prov. Murillo: Zongo, 10 km toward La Paz, 40° E, 2170 m, evergreen cloud forest with many epiphytes, 7 April 1979, St. G. Beck 1242 (LA PAZ, US). New to Bolivia.

252. T. SETACEA Swartz, Fl. Ind. Occ. 1: 593. 1797.

VENEZUELA: BOLÍVAR: Represa Guri, 1-5 km south of dam, islands and west side of river, forest, epiphytic, 7° 45' N, 63° 00' W, 220-240 m, Liesner & González 11078 (MO). New to Venezuela.

369c. T. SPICULOSA Griseb. var. MICRANTHA (Baker) L. B. Smith.

BOLIVIA: BENI: Prov. Ballivian: Puente Rio Quiquibey, 4 km toward San Borja (coming from P. Linares), 700 m, epiphytic in natural 35 m high forest with many epiphytes, on high terrace of the Rio Quiquibey Valley, 14 July 1979, St. G. Beck 1733 (LA PAZ, US). New to Bolivia.

15. VRIESEA

41. VRIESEA GLADIOLIFLORA (Wendl.) Ant., Wiener Ill. Gart. 5: 98, pl. 1. 1880.

VENEZUELA: TÁCHIRA: 10 km east of La Fundación (13-23 km by road), around Represa Dorada, epiphytic, primary evergreen forest, 600-1000 m alt, 10-13 March 1981, Liesner & González 10318 (US, VEN). New to Venezuela.

PERU: LORETO: Prov. Maynas: lower Río Momón, tributary of Río Nanay, near Iquitos, epiphytic, primary lowland rainforest along the riverbank, 9 December 1979, C. Davidson & Jones 9806 (IAM, US). New to Peru.

125. VRIESEA SPLITGERBERI L. B. Smith & Pittendrigh.

PANAMA: CHIRIQUI: Epiphyte, rainforest, Cerro Horqueta, July 20, 1968, Dwyer & Lollathin 8748 (NY). New to Panama.

127. V. CAPITULIGERA (Grisebach) L. B. Smith & Pittendrigh.

BRAZIL: AMAZONAS: Estrada Manaus-Caracará, km 11, campina do

igarape do Leão, 11 June 1963, W. Rodrigues 5289 (INPA 13957).
New to Brazil.

16. GUZMANIA

44. *G. DONNELL SMITHII* Mez ex Donnell Smith, Bot. Gaz. 35: 9. 1903.

Guzmania donnellsmithii should appear under both of the two first major divisions of the key in Flora Neotropica, the sepals being often more than half connate and their free lobes broadly rounded and cucullate.

1. Sepals high-connate into a slenderly cylindric tube, the free lobes often cucullate or dilated (Sodirola).

152. Plants stemless, sepals often cucullate.

153. Leaf-blades ligulate.

154. Inflorescence compound; leaf-blades concolorous.

154a. Inflorescence lax; flowers slenderly pedicellate.

115. *G. macropoda*

116. *G. dudleyi*

154a. Inflorescence dense or lax at extreme base; flowers subsessile.

44. *G. donnellsmithii*

105. *G. SQUARROSA* (Mez & Sodiro) L. B. Smith & Pittendrigh, Jour. Washington Acad. 43: 403. 1953.

BOLIVIA: LA PAZ: Prov. Sud Yungas: Huanacáné, 9 km to the south on the new road, 20° E, 2500 m, forest of Podocarpus and Clusia the other side of the crest, epiphytic, 9 March 1980, St. G. Beck 3187 (LA PAZ, US). New to Bolivia.

18. CATOPSIS

5. *CATOPSIS BERTERONIANA* (Schult. f.) Mez. Viscum Caryo-phylloides, Aloes foliis viridibus acuminatis, floribus racemosis luteis Catesby, Carol. 2: pl. 77. 1743. Reference furnished by Richard A. Howard.

3. BROMELIOIDEAE

23a. *PSEUDAECHEMEA* L. B. Smith & R. W. Read, gen. nov.

FOLIA rosulata; laminis armatis. SCAPUS elongatus. INFLORESCENTIA simplicissima. BRACTEAE FLORIGERAE florum bases haud cingentes. FLORES longe pedicellati, polystichi, perfecti. SEPALA sublibera, asymmetrica, inermia. PETALA haud appendiculata. STAMINA inclusa; filamentis a petalis inclusis sed distinctis; pollinis granum biporatum. OVARIUM inferum, sine tubo epigyno, placentis subapicalibus, ovulis caudatis.

1. *P. AMBIGUA* L. B. Smith & R. W. Read, sp. nov. PLANTA acaulis, stolonifera, florigera 45-50 cm alta. FOLIA suberecta, 45-48 cm longa, obscure dissiteque albo-lepidota; vaginis ellipticis, ca. 10 cm longis, pallidis; laminis ligulatis, 4-5 cm

latis, laxe serrulatis, pallide canaliculatis. SCAPUS gracilis, erectus, albo-lepidotus; scapi bracteis lanceolatis, attenuatis, integris, superioribus imbricatis. INFLORESCENCIA 8-9 cm longa, laxissima, albo-araneosa. BRACTEAE FLORIGERAE inferioribus eis scapi simulantes, fulgente rubrae, superioribus abrupte valdeque reductis. FLORES divergentes; pedicellis gracillimis, ad 4 cm longis, roseis. SEPALA brevissime connata, oblonga, apice asymmetricice rotundata, 5.5 mm longa, fulgente violaceo-azurea, haud carinata. PETALA immatura solum cognita, sepala aequantia. Pl. 3, 4.

COLOMBIA: ANTIOQUIA: Mun. Zaragoza: Corregimiento de Proviencia, trail in advanced humid secondary tropical forest, vicinity of the hydroelectric plant, 500-650 m, 9 February 1971, D. D. Soejarto & J. D. Villa 2703 (ECON, holotype).

In the Flora Neotropica key (part 3, p. 1494), Pseudaechmea comes next to Fernseea, but differs significantly in the asymmetric sepals, total lack of an epigynous tube above the ovary, caudate ovules, and biporate pollen grains.

29. GREIGIA

22. G. COLUMBIANA L. B. Smith, Contr. Gray Herb. 98: 7, pl. 1, fig. 7, 8. 1932.

VENEZUELA: TÁCHIRA: Paramo El Amorzadero, 3400 m, E. Medina s. n. (VEN). New to Venezuela.

31. BROMELIA

42. BROMELIA SCARLATINA (hortus ex Henrincq) E. Morren.

PERU: LORETO: Maynas: Rio Ampiyacu, Pebas, trail to Pijuyal, ca. 3° 10' S, 71° 49' W, rosette herb in forest, fruits dark yellow-ochre, shiny, 26 April 1977, T. Plowman, R. E. Schultes & Q. Tovar 7032 (F, GH, USM); same, cultivated and flowered, University of Chicago, 22 October 1979, T. Plowman 7960 (F) and also at SEL.

Thanks to Plowman for bringing this collection to our attention we are now able to record a definite locality for this species first described in 1869 and with no indication of its origin.

FLORA NEOTROPICA, Monograph No. 14.

L. B. Smith & R. J. Downs. Errata 2:

With the completion of the other two parts it is now possible to note errata for the whole monograph. References are being compiled for a supplement and it is planned to include a full list of errata:

Part 1. Pitcairnioideae:

P. 198. Encholirium magalhaesii line 7 of description insert "usually" before "exceeding" because of:

MINAS GERAIS: Mun. Datas: Serra do Espinhaço, alt. ca. 1250 m, 5 Feb 1972, Anderson, Stieber & Kirkbride 35558 (IAN, NY, UB, US).

P. 394. Pitcairnia bakeri (André) André. Delete S. Vogel 26 and enter under P. barrigae L. B. Smith p. 388.

Part 2. Tillandsioideae.

P. 846. Tillandsia umbellata. "Type . . . May 1882."

P. 960. no. 293. Tillandsia variabilis Schlechtendal, Linnaea 18: 418. 1845, replaces T. valenzuelana A. Richard in Sagra, Hist. Cuba 11: 267. 1850.

Tillandsia azurea sensu Schlechtendal & Chamisso, Linnaea 6: 52. 1831, non Presl, 1827.

Type: Schiede 1003 (HAL, photo W. Weber), Papantla, Vera Cruz, Mexico, 29 Jan (1829 ?).

We are indebted to Wilhelm Weber, German Democratic Republic, for photographs giving the above information. The day and month are indicated on the label but not the year. Mez has annotated the specimen as T. valenzuelana A. Rich., yet has disregarded an adequate description of T. variabilis and placed the latter in the doubtful list in his two monographs.

P. 968, no. 304. Tillandsia limbata Schlechtendal, Linnaea 18: 419. 1845 replaces T. dasyliiriifolia Baker, Jour. Bot. London 25: 304. 1887.

Type: Schiede s. n. (HAL, photo W. Weber), Hacienda La Laguna, Vera Cruz, Mexico, Aug 1828.

Cf. W. Weber, Jour. Brom. Soc. 31 (5): 223. 1981.

P. 977, no. 311. Delete Tillandsia limbata Schlechtendal from the synonymy of T. flexuosa Sw.

P. 981, no. 316. Tillandsia streptophylla Scheidweiler ex Morren, Hort. Belge 3: 252, pl. 1836.

Tillandsia circinnata Schlechtendal, Linnaea 18: 430. 1845.

Type: Schiede s. n. (holotype HAL, photo W. Weber), Hacienda de La Laguna, Vera Cruz, Mexico.

Cf. W. Weber, Jour. Brom. Soc. 32 (1): 28. 1982.

P. 996, no. 325. Tillandsia paucifolia Baker, Gard. Chron. II. 10: 748. 1878 replaces T. circinnata sensu Mez in DC. Mon. Phan. 9: 722. 1896, non Schlechtendal, 1845.

Type. Cultivated plant of unknown origin, Kew Hortus s. n. (K, GH photo), Oct 1878.

P. 1003, no. 333. Tillandsia erubescens Schlechtendal, Linnaea 18: 427. 1845 replaces T. benthamiana Klotzsch ex Baker, Jour. Bot. London 26: 15. 1888.

Type. Schiede s. n. (HAL, photo W. Weber), San Angel, San Bartolo, Mexico.

Cf. W. Weber, Jour. Brom. Soc. 31 (4): 173. 1981.

P. 1062, no. 399a. Tillandsia parviflora var. parviflora.

Type. Ruiz & Pavon s. n. (MA? n.v.), in woods on rocks, Muña, Huanuco, Peru.

P. 1067. Tillandsia erubescens replaces T. benthamiana, cf. note on p. 1003.

P. 1068. Tillandsia variabilis replaces T. valenzuelana, cf. note on p. 960.

P. 1076, line 2. monacorum

P. 1084, line 3. Inflorescence

P. 1086, first 12. Flowers more than 2 in the axil of the lowest primary bract.

P. 1098, line 2. Fig. 351. F-H.

P. 1163, no. 113. *Vriesea limae* L. B. Smith

Type. A. Lima 65-4276 (IPA type, US), half-bare gneiss hill, Propriedade (Estate) Bituri, Brejo da Madre de Deus, 8° 11' S, 36° 30' W, Pernambuco, Brazil, 5 Feb 1965.

P. 1280, first 79. acuminate, not acumin~~ate~~.

P. 1281, first 93. *morreniana*

P. 1283, second 139. *Guzmania spectabilis*, Phytologia 40: 55. 1978.

Part 3. Bromelioideae.

P. 1536, first 43. (10-25-) flowered.

P. 1541, no. 5. after *Nidularium myrmecophilum*, forma *angustifolium* Ule, forma *latifolium* Ule, ibid.

P. 1606, second 18. add "or long narrowly acute."

P. 1650, first 5. Inflorescence long or

P. 1725. Delete Hybrid and subsequent data.

P. 1770. at anthesis.

P. 1778, first 5. Sepals 25-38 mm long.

P. 1826, no. 51a, last synonym. *Gravisia aquilega* (Salisbury) Mez, Mart. Fl. Bras. 3 (3): 300. 1892.

P. 1880, no. 104a. *Aechmea comata* Baker, Jour. Bot. London 17: 234. 1879.

P. 1880. *Aechmea comata* var. *comata* L. B. Smith, Smithson. Misc. Collect. 126: 221. 1955.

P. 1880, no. 104b. *Aechmea comata* var. *makoyana* L. B. Smith, Smithson. Misc. Collect. 126: 14. 1955.

P. 2064. X *Orthotanthus* 'What' J. D. Garretson, Jour. Bromel. Soc. 24: 26. 1974 = *Cryptanthus* 'It' X *Orthophytum saxicola* var. *rubra*.

P. 2093. *comata* 35, 1880.

P. 2096. *Agallostachys lanigera* 1666.

P. 2118. X *Orthotanthus*. Delete 1725 and replace with 1709.

P. 2118. Delete *Orthotanthus* X 'What' 1725 and replace with X *Orthotanthus* 'What' 1709.

Plate 1



UNITED STATES

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Pitcairnia luteyniorum Smith & Read

Plate 2

*Pitcairnia alversonii* Smith & Read

Plate 3



Pseudaechmea ambigua Smith & Read (holotype)

Plate 4



Pseudaechmea ambigua Smith & Read (isotype)